TW™-Series Septic Tanks Riser Connection Guidance Document

INFILTRATOR® septic tanks

Before You Begin

This document provides recommended procedures for the connection of commercially available riser products to Infiltrator® Systems' (Infiltrator's) TW-Series septic and pump tanks. These guidelines are applicable to Infiltrator's TW-375™, TW-900™, TW-1050™, TW-1250™, and TW-1500™ model tanks.

The intent of this document is to provide procedures for making the connection between the riser and tank. Once this connection has been made, the riser manufacturer's standard installation instructions should be used to complete the assembly.

Risers must be installed according to state and/or local regulations, which supersede the guidelines in this document. If unsure of the requirements for a particular site, contact the local health department or permitting authority.

Parts and Supplies

The parts and supplies necessary for installation of a riser system on an Infiltrator TW-Series tank must be purchased separately from the tank. All parts and supplies are commercially available. Contact Infiltrator or the riser manufacturer for assistance obtaining parts and supplies.

General Guidelines

1. Complete riser assembly installation, including installation of adapter ring, riser(s), and lid prior to backfilling tank.

Note: Risers are to be connected to Infiltrator's factory-installed access port reinforcing ring (reinforcing ring). TW-Series tanks are assembled at the factory with reinforcing rings and lids at the inlet and outlet access port locations.

2. Ensure that all connection surfaces are clean and dry.

3. Butyl sealant shall meet ASTM C990-91 requirements.

4. Butyl sealant dimensions vary between manufacturers. Butyl sealant sizing identified herein represents a minimum recommendation. The installer must use discretion in determining the size and amount of butyl sealant needed to craft and maintain a watertight seal.

5. Keep butyl sealant at a temperature (at least 60° F/16° C) that maintains its workability. Keep it free from dirt and debris that may compromise a watertight seal.

6. When applying butyl sealant to a part, ensure continuous application to avoid gaps that may cause leaks. Apply an adequate quantity to ensure a sealed connection.

7. Physically press the butyl sealant onto the part to ensure that it stays properly positioned during assembly.

8. Ensure that all screws supplied with riser products are installed for connection of adapter rings, risers, and lids.

9. Do not over tighten screws. This may damage the plastic parts being connected, causing the screw connection to fail. This may also strip the screw head.

Note: Use Type 304 stainless steel screws

10. In addition to the measures shown in this document, a caulk-type sealant may also be applied to augment the butyl sealant and to help establish and maintain watertight connections.

Compatible Products

The TW-Series Septic Tanks are compatible with 24-inch (600-mm) diameter riser products from the following manufacturers:

- Polylok®, Inc.
- Tuf-Tite® Corporation
- E-Z SET Company

The following 24-inch (600-mm) diameter pipe products are also compatible with the TW-Series septic and pump tanks:

- IPEX Ultra-Rib™ polyvinyl chloride pipe
- Corrugated high density polyethylene (HDPE) pipe

Polylok™, Inc. Riser

1. Install riser assembly prior to backfilling tank.

2. Apply 1/2-inch x 3/8-inch (13 mm x 10 mm) butyl sealant in the channel on the bottom surface of the Polylok riser-to-riser adapter.


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Note: Use proper Polylok adapter

- *Compatible - Polylok part #3009-RTR24 (riser-to-riser adapter)*
- *Not compatible - Polylok part #3009-AR (riser adapter)*

3. Invert Polylok riser-to-riser adapter and center over the Infiltrator reinforcing ring.

4. Verify that the butyl sealant remains properly aligned on the Polylok riser-to-riser adapter.

5. Fasten the Polylok riser-to-riser adapter to the Infiltrator reinforcing ring with eight #10 x 1.5 inch (4.9 mm x 38 mm) stainless steel screws.

6. Tighten screws in a "star" pattern, tightening screws on opposite sides of the Polylok riser-to-riser adapter. Repeat the star pattern at least twice, without over tightening screws. Compress the butyl sealant to the tank evenly during fastening.


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7. Connect the Polylok riser to the Polylok riser-to-riser adapter and install lid according to Polylok's instructions.

Note: Do not use the Infiltrator tank lid, as it does not provide a watertight seal with the Polylok riser.

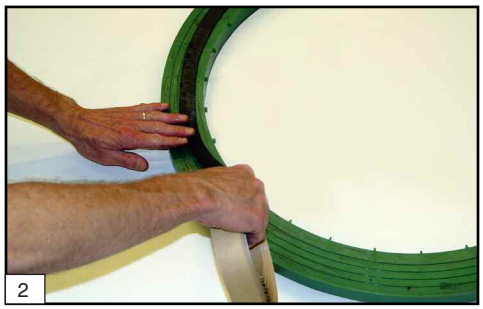
8. Backfill tank in accordance with Infiltrator's TW-Series septic tank installation instructions.

9. Following tank backfilling, visually examine the riser to Infiltrator reinforcing ring connection for damage resulting from fill placement. Repair or replace if damaged.

Tuf-Tite® Corporation Riser

1. Install riser assembly prior to backfilling tank.

2. Apply a minimum 1-inch-wide x 1/8-inch-thick (25 mm x 3 mm) strip of butyl sealant on the bottom surface of the Tuf-Tite adapter ring, aligning the butyl sealant with the factory screw holes on the adapter ring.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3. Invert Tuf-Tite adapter ring and center over the Infiltrator reinforcing ring.

4. Verify that the butyl sealant remains properly aligned on the Tuf-Tite adapter ring.

5. Fasten the Tuf-Tite adapter ring to the Infiltrator reinforcing ring with eight #10 x 1.5 inch (4.9 mm x 38 mm) stainless steel screws.

Note: The Tuf-Tite adapter ring will seat on or above the screw heads that fasten the Infiltrator reinforcing ring to the tank body. Butyl sealant should be positioned to seal the space around the screw heads.

6. Tighten screws in a "star" pattern, tightening screws on opposite sides of the Tuf-Tite adapter ring. Repeat the star pattern at least twice, without over tightening screws. Compress the butyl sealant to the tank evenly during fastening.


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7. Connect the Tuf-Tite riser to the Tuf-Tite adapter ring and install lid according to Tuf-Tite's instructions.

Note: Do not use the Infiltrator tank lid, as it does not provide a watertight seal with the Tuf-Tite riser.

8. Backfill tank in accordance with Infiltrator's TW-Series septic tank installation instructions.

9. Following tank backfilling, visually examine the riser to Infiltrator reinforcing ring connection for damage resulting from fill placement. Repair or replace if damaged.

E-Z SET Company Riser

1. Install riser assembly prior to backfilling tank.

2. Apply 1-inch x 3/4-inch (25 mm x 19 mm) butyl sealant in alignment with the factory-drilled screw holes on the bottom surface of the E-Z SET riser. The butyl sealant thickness must be adequate to fill the gap beneath the E-Z SET riser.


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3. Invert the E-Z SET riser and center over the Infiltrator reinforcing ring.

4. Verify that the butyl sealant remains properly aligned on the E-Z SET riser.

5. Fasten the E-Z SET riser to the Infiltrator reinforcing ring with the ten factory-supplied screws. If the factory-supplied screws are not available, use ten #10 x 1.5 inch (4.9 mm x 38 mm) stainless steel screws.


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6. Tighten screws in a "star" pattern, tightening screws on opposite sides of the E-Z SET riser. Repeat the star pattern at least twice, without over tightening screws. Compress the butyl sealant to the tank evenly during fastening.

7. Connect additional E-Z SET riser sections or lid according to E-Z SET's instructions.

Note: Do not use the Infiltrator tank lid, as it does not provide a watertight seal with the E-Z SET riser.

8. Backfill tank in accordance with Infiltrator's TW-Series septic tank installation instructions.

9. Following tank backfilling, visually examine the riser to Infiltrator reinforcing ring connection for damage resulting from fill placement. Repair or replace if damaged.

24-inch (600-mm) HDPE Pipe

1. Install riser assembly prior to backfilling tank.

2. Cut HDPE pipe along an inner corrugation to allow lid to fit properly. Cut should be smooth and even.

3. At one end, apply 3/8-inch round (9.5 mm) butyl sealant around the circumference of the HDPE pipe. Center the butyl sealant on the bearing surface of the HDPE pipe.


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4. Invert the HDPE pipe and center over the Infiltrator reinforcing ring.

5. Press the HDPE pipe onto the Infiltrator reinforcing ring to create an even butyl seal between the pipe and reinforcing ring.

6. Place 3/8-inch round (9.5 mm) butyl sealant in the space between the pipe and Infiltrator reinforcing ring. Work the butyl sealant into the bottom of the gap between pipe and reinforcing ring.


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7. Repeat Step 5 to create a second layer of butyl sealant. Use additional butyl sealant or caulk-type sealant if necessary to seal the space between HDPE pipe and Infiltrator reinforcing ring.

8. Drill eight evenly spaced 1/8-inch (3.5-mm) pilot holes from the inside surface of the Infiltrator reinforcing ring into the HDPE pipe. Drill pilot holes through the upper portion of the Infiltrator reinforcing ring, such that the screw will connect to the adjacent HDPE pipe.

9. Using the pilot holes, fasten the HDPE pipe to the Infiltrator reinforcing ring using eight #12 x 2 inch (5.0 mm x 50 mm) stainless steel screws.

10. Tighten screws in a "star" pattern, tightening screws on opposite sides of the Infiltrator reinforcing ring. Repeat the star pattern at least twice, without over tightening screws. Connect the HDPE pipe to the tank evenly during fastening.


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11. Use the Polylok 24-inch (600 mm x 9.5 mm) Heavy Duty Cover, RotoSolutions 24-inch (600 mm) septic lid, 24-inch (600 mm) Jackel Septic Tank Riser, Sim/Tech 24-inch (600 mm) cover, or equivalent product as a lid for the HDPE pipe. Follow lid manufacturer's instructions to complete riser installation.

Note: Do not use the Infiltrator tank lid, as it does not provide a watertight seal with HDPE pipe.

12. Backfill tank in accordance with Infiltrator's TW-Series tank installation instructions.

13. Following tank backfilling, visually examine the riser to Infiltrator reinforcing ring connection for damage resulting from fill placement. Repair or replace if damaged.

24-inch (600-mm) IPEX Ultra-Rib™ PVC Pipe

1. Install riser assembly prior to backfilling tank.

2. Cut IPEX pipe along an inner corrugation to allow lid to fit properly. Cut should be smooth and even.

3. At one end, apply 1-inch x 3/4-inch (25 mm x 19 mm) butyl sealant around the circumference of the IPEX pipe. Center the butyl sealant on the bearing surface of the IPEX pipe.


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4. Invert the IPEX pipe and center over the Infiltrator reinforcing ring.

5. Press the IPEX pipe onto the Infiltrator reinforcing ring to create an even butyl seal between the pipe and reinforcing ring.

6. Connection method to Infiltrator reinforcing ring:

Option 1 – Horizontal Fastening

a. Drill eight evenly spaced 1/8-inch (3.5-mm) horizontal pilot holes from inside surface of the Infiltrator reinforcing ring into IPEX pipe. Drill pilot holes through the upper portion of the Infiltrator reinforcing ring, such that the screw will connect to the adjacent IPEX pipe.

b. Using the pilot holes, fasten the IPEX pipe to the Infiltrator reinforcing ring using eight #12 x 2 inch (5.0 mm x 50 mm) stainless steel screws.


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Option 2 – Vertical Fastening

a. Drill eight evenly spaced 1/8-inch (3.5-mm) pilot holes from the IPEX pipe corrugation closest to the Infiltrator reinforcing ring, into the Infiltrator reinforcing ring. Pilot holes should be vertically oriented and slightly angled toward the tank access opening to allow advancement of the screw around other corrugations.

b. Using the pilot holes, fasten the IPEX pipe to the Infiltrator reinforcing ring using eight #12 x 2 inch (5.0 mm x 50 mm) stainless steel screws. Screws may need to be longer than 2 inches, depending upon the manner in which the pipe was cut and the height of corrugation above the Infiltrator reinforcing ring.


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7. Tighten screws in a "star" pattern, tightening screws on opposite sides of the Infiltrator reinforcing ring. Repeat the star pattern at least twice, without over tightening screws. Connect the IPEX pipe to the tank evenly during fastening.

8. Use the Polylok 24-inch (600 mm) Heavy Duty Cover, 24-inch (600 mm) Jackel Septic Tank Riser Cover, Sim/Tech 24-inch (600 mm) cover, or equivalent product as a lid. Follow lid manufacturer's instructions to complete riser installation.

Note: Do not use the Infiltrator tank lid, as it does not provide a watertight seal with IPEX pipe.

9. Backfill tank in accordance with Infiltrator's TW-Series septic tank installation instructions.

10. Following tank backfilling, visually examine the riser to Infiltrator reinforcing ring connection for damage resulting from fill placement. Repair or replace if damaged.

Disclaimer: These recommended procedures have been developed to identify best practices for achieving a watertight connection between tank and riser under typical tank installation conditions. These procedures have been shown to result in a watertight connection between the riser assemblies identified in this document and each Infiltrator TW-Series tank model. Infiltrator does not guarantee a watertight connection between tank and riser because achieving a watertight connection is dependent upon a combination of installer practices and procedures, and field conditions. Please contact Infiltrator's Technical Services Department if difficulty is encountered during riser connection installation. Additionally, Infiltrator developed these recommendations in cooperation with the specific riser manufacturers (excluding the HDPE and IPEX alternatives) referenced above. Please contact the appropriate riser manufacturer for concerns associated with anything that does not involve the tank-to-riser connection.

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